REMARKS

Claims 1, 2, 6, and 8 are pending in this application. By this Amendment, claims 9 is added. Support for claim 9 may be found, for example, on page 17, lines 1-7, of the present specification. No new matter is added. In view of at least the foregoing amendments and the following remarks, reconsideration and allowance are respectfully requested.

I. Interview Summary

The courtesies extended to Applicant's representative by Examiner Kruer at the interview held July 9, 2009, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicants' record of the interview.

II. Rejection Under 35 U.S.C. §102

The Office Action rejects claims 1, 2, 6, and 8 under 35 U.S.C. §102(b) as allegedly being anticipated by Miyamoto et al. (JP 08-25888, hereinafter "Miyamoto"). Applicants respectfully traverse the rejection.

Claim 1 recites that the "softening temperature of the metallocene linear low-density polyethylene measured by a TMA method defined in JIS K7196 is in a range of from 75°C to 97°C." Miyamoto fails to disclose, either explicitly or inherently, the recited range of softening temperatures in claim 1.

The Office Action asserts that the range of melting points of the alpha-olefin copolymer disclosed in Miyamoto (110°C or less) is equivalent to or overlaps with the recited range of softening temperatures of the claimed metallocene linear low-density polyethylene (*see* page 2 of the Office Action). Furthermore, the Office Action asserts that "the examiner takes the position that the m-LLDPE taught in Miyamoto which has a density in the overlapping claim range (0.90-0.907) will inherently meet the claimed softening point since

said polymers are compositionally identical to the claimed polymers" (*see* page 3 of the Office Action). Applicants respectfully disagree.

Applicants submit that the Office Action's assertions are improper because (1) softening temperature and melting point are distinct properties, (2) softening temperature and density of LLDPEs are not directly or linearly correlated, and (3) the claimed metallocene linear low-density polyethylene and the polymers of Miyamoto are not identical. With regard to this first argument, Applicants note that, unlike melting point, softening temperature for the claimed LLDPE is determined from a thermo-mechanical analysis (TMA) curve according to JIS K7196 using a specimen having a thickness of 1 mm, at a heating rate of 5°C/min, by applying pressure. As for the second argument, Applicants note that that the precise melting point of an LLDPE depends upon several factors such as the molecular weight and the amount of branching present in the LLDPE, and thus softening temperatures are not directly related to density alone.

Regarding the third argument, comparative Example 1 of Table 2 of Miyamoto and Comparative Example 1 of the present specification both have a density of 0.908 g/cm^3; however, these examples have different melting points and thus must not be compositionally identical. Paragraph [0005] of Miyamoto teaches that the melting point of the ethylene-alpha-olefin copolymer is 110°C or less. Although Miyamoto discloses that the melting point of the ethylene-alpha-olefin copolymer is 110°C or less, this range of melting points does not necessarily mean that a copolymer with a softening temperature in the range of 75°C to 97°C will be present. Miyamoto does not provide any examples that show that the ethylene-alpha-olefin copolymer has a softening temperature ranging from 75°C to 97°C. As discussed on page 13 of the present specification, the claimed properties of the claimed metallocene LLDPE require careful control of the molecular structure (including the molecular weight

range) of the claimed metallocene LLDPE (*see* page 13, lines 26-35, of the present specification). Miyamoto does not suggest that such careful control is required.

Furthermore, simply because the ethylene-alpha-olefin copolymer disclosed in Miyamoto has a melting point of 110°C or less does not necessarily indicate that the softening temperature of the ethylene-alpha-olefin copolymer falls within the recited range of softening temperatures in claim 1 or that the method disclosed in Miyamoto would necessarily produce an ethylene-alpha-olefin copolymer having the recited range of softening temperatures in claim 1.

The present specification states that "[a] correlation between a density of the soft material layer 15 and a softening temperature thereof measured by the TMA method is not clearly understood" (*see* specification, page 18, lines 14-16). The Office Action merely asserts that the "m-LLDPE taught in Miyamoto which has a density in the overlapping claim range (0.90 - 0.907) will inherently meet the claimed softening point since said polymers are compositionally identical to the claimed polymers" (*see* page 3 of the Office Action). As described below, it can not be presumed that the ethylene-alpha-olefin copolymer disclosed in Miyamoto and the claimed metallocene LLDPE are compositionally identical, simply based on the specific gravity of the claimed metallocene LLDPE recited in claim 1 and the ethylene-alpha-olefin copolymer disclosed in Miyamoto.

Although Miyamoto discloses a range of densities ranging from 0.900 - 0.925 g/cm^3 and this range overlaps with the specific gravities recited in claim 1 (from 0.888 to 0.907), this overlap in densities does not necessarily equate to compositionally identical polymers, much less an overlap in the recited range of softening temperatures. As suggested in the specification, the softening temperature of an LLDPE is not directly or linearly correlated with the density of an LLDPE, as demonstrated by Examples 4, 5, 7, and 8 in Table 1 and Table 2 in the specification of the present application (and corresponding Figure 4).

Similarly, the data in Tables 1 and 2 of the present specification also demonstrate that melting temperature is also not directly or linearly correlated with the density of an LLDPE. For example, Examples 4 and 5 both have a density of 0.902 g/cm^3, but softening temperatures of 89.5°C and 96.3°C, respectively. Example 7 has a density of 0.904 g/cm^3 and a softening temperature of 94.5°C, while Example 8 has a density of 0.906 g/cm^3 and a lower softening temperature of 90.6°C.

Furthermore, Comparative Example 1 in Table 2 of the present specification and Comparative Example 1 in Table 2 of Miyamoto both have densities of 0.908 g/cm^3, yet Comparative Example 1 of the present specification has a softening temperature of 104.3°C (and a DSC melting point of 104°C) and Comparative Example 1 of Miyamoto has a melting point of 120°C. Thus, one may not presume or infer that similarities in densities of LLDPEs necessarily indicate that the polymers of Miyamoto are *compositionally identical*, much less possess equivalent softening temperatures within the claimed range. There are several factors that effect the softening temperature of an LLDPE, and only one of these factors is the density of the LLDPE. Accordingly, one of ordinary skill in the art would recognize that the mere overlap of the range of the recited densities in claim 1 and the densities disclosed in Miyamoto would not necessarily result in the recited range of softening temperatures of claim 1, because the claimed metallocene linear low-density polyethylene and the polymers of Miyamoto are not compositionally identical.

In addition, section 2131.03 of the MPEP further supports Applicants' argument that the claimed range of softening temperatures is not anticipated by Miyamoto:

> In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with 'sufficient specificity to constitute an anticipation under the statute.' If the claims are directed to a narrow range, and the reference teaches a broad range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. See, e.g., *Atofina v. Great Lakes Chem. Corp*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed.

> Cir. 2006) wherein the court held that a reference temperature range of 100-500 degrees C did not describe the claimed range of 330-450 degrees C with sufficient specificity to be anticipatory."

See MPEP, Section 2131.03.

In view of the distinctions between softening and melting temperature and the fact that Miyamoto discloses a broad open-ended range of 110°C or less for melting points without any specific examples which clearly disclose the recited range of softening temperatures, Applicants submit that the polymers of Miyamoto neither inherently possess the claimed softening temperatures nor does Miyamoto describe the claimed softening temperatures with "sufficient specificity" to anticipate the claims. For at least these reasons, Miyamoto fails to disclose the claimed metallocene linear low-density polyethylene in claim 1 because Miyamoto does not disclose, either explicitly or inherently, the recited range of softening temperatures of the claimed metallocene linear low-density polyethylene in claim 1.

Applicants also note that the ethylene-alpha-olefin copolymer disclosed in paragraphs [0006] and [0007] of Miyamoto is distinct from the LLDPE discussed in paragraph [0008] and Table 2 of Miyamoto. As discussed above, paragraph [0005] of Miyamoto teaches that the melting point of the ethylene-alpha-olefin copolymer is 110°C or less. However, Table 2 of Miyamoto teaches the following (emphasis added):

Table 2

	Embodiment 7	1	2	Comparative Example 3	4	5
· Outer layer						
Resin Used	O-PET	O-PET	OPP	O-PET	OPP	O-PET
Thickness (μm)	16	25	25	16	25	16
· Second Layer						
Resin Used	ONY	--	--	OPP	--	ONY
Thickness (μm)	12			15		12
· Interlayer						
Resin Used	PE	**LLDPE**	--	5%EVA	**LLDPE**	LDPE
Thickness (μm)	40	30		30	20	40
Density (g/cm^3)	0.910	0.908		0.933	0.915	0.919
Melting Point (°C)	102	**120**		125	**125**	128
Tear Resistance (kg/cm)	124	85		45	105	60
Tension Shock Resistance ($kg\text{-}cm/cm^2$)	120	75		35	100	45
Cloudiness (%)	11	20		13	18	8
· Adhesion Layer						
Adhesive Used	Styrene System	PET System	Polyurethane System	EVA System	Acryl System	EVA System
Conductive Micro Powder	SnO_2	ZnO_2	SnO_2	SnO_2	Surface Active Agent	SnO_2
(Weight by Parts)	400	150	7	1200	2	1500

While the melting point of the ethylene-alpha-olefin copolymer disclosed in paragraph [0005] of Miyamoto is 110°C or less, Table 2 of Miyamoto shows that the melting point of the LLDPE is 120°C and 125°C (*see* Comparative Examples 1 and 4 in Table 2 of Miyamoto). This further demonstrates that the LLDPE contemplated by Miyamoto is distinct from the ethylene-alpha-olefin copolymer disclosed in paragraphs [0006] and [0007] of Miyamoto having a melting point of 110°C or less.

Accordingly, Miyamoto fails to disclose the claimed metallocene linear low-density polyethylene with the recited range of softening temperatures in claim 1. For at least these reasons, Applicants submit that Miyamoto fails to disclose each and every element of claim 1,

as required for anticipation under 35 U.S.C. §102(b). Thus, Miyamoto does not anticipate claims 1, 2, 6, and 8.

Reconsideration and withdrawal of the rejection are respectfully requested.

III. New Claims

By this Amendment, new claim 9 is presented. New claim 9 depends from claim 1 and, thus, distinguishes over the applied reference for at least the reasons discussed above with respect to claim 1. Prompt examination and allowance of new claim 9 are respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Azza M. Jayaprakash
Registration No. 55,299

JAO:AMJ/dxc

Date: November 18, 2009

Attachments:
Request for Continued Examination
Petition for Extension of Time

OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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